REMARKS

Claims 1-14 and 16-18 are pending in the application. Claims 1-14 and 16-18 have been rejected. No new matter has been added.

New Rejections under 35 USC § 103

Claims 1-14 and 16-18 have been rejected under 35 U.S.C. 103 as being unpatentable over FR526178A in view of U.S. Patent No. 2,068,421 to Long et al. (Hereafter "Long"). Claim 3 has been rejected under 35 U.S.C. 103(a) as being unpatentable over FR526178A in view of Long and further in view of WO9205946A. Claim 7 has been rejected under 35 U.S.C. 103(a) as being unpatentable over FR526178A in view of Long and further in view of JP403054354A. Claims 10 and 11 are rejected under 35 U.S.C. 103 as being unpatentable over FR526178A in view of Long and further in view of U.S. Patent No. 5,331,943 to Ko (hereafter "Ko"). Claims 12 and 13 are rejected under 35 U.S.C. 103 as being unpatentable over FR526178A in view of Long and further in view of U.S. Patent No. 4,437,968 to Elliot, (hereafter "Elliot"). Applicant respectfully traverse the rejections.

Claims 1-14 and 16-18

Applicants respectfully point out that they are aware of the FR526178A reference as it has been applied in the corresponding foreign counterparts of this application. As such, Applicants are familiar with the teaching of FR526178A and submit the following arguments that were effective in overcoming the application of this reference in the corresponding foreign cases.

First, circular section rods are prima facie less advantageous that polygonal section rods in that the ratio of surface area to volume is reduced. Thus, for the same weight of metal rod, there will be less heat absorption surface.

Next, FR526178A does in fact illustrate circular section rods at figures 1 and 2. The disclosure in Long is simply cumulative of this, and therefore the correct point of reference for the skilled person is to the circular section rods in the FR526178A, not Long. It is relevant that FR526178A shows the rods in a different configuration, one in which the rods are not in a generally co-aligned array. Therefore, if a skilled reader considers replacement of the polygonal

section rods with circular section rods, they will see that FR526178A teaches an alternative configuration for circular rods. They will be taught to arrange those rods in alternate transverse layers. As such, FR526178A teaches away from a two dimensional array of co-aligned circular rods. That is, FR526178A shows different arrangements for the different types of rods. Circular section rods are to be arranged transverse and that aligned rods are to be hexagonal.

Thus, to arrive at the configuration set forth in the present invention, one must diverge from the disclosure of FR526178A, to contradict its teaching and dispose circular section rods in a co-aligned two-dimensional array. FR526178A states that only angled-section (polygonal) rods should be aligned in this way and that circular section rods are to be aligned transversely. One must also ignore the lesser heat absorption qualities of circular section rods and abandon the prima facie superior polygonal section rods.

To require the skilled person to contradict the teaching of FR 526 178 and move in a prima facie undesirable direction is to go beyond the limits of obviousness. Each would often be enough of its own, but the cumulative effect of both, and the reinforcement that is provided to the teaching of FR526178A by the skilled person's technical understanding, all combine to deter the skilled person from taking such a step.

Furthermore, there is no motivation to combine FR526178A and Long. Long teaches the same configuration of circular rods as disclosed in FR526178A. Namely, that circular section rods are arranged transversely. As previously argued, this is not what is claimed. The present invention recites "a two dimensional array of adjacent circular section rods each being generally co-aligned and arranged transverse to the flow direction." This is clearly depicted in figures and described in the related sections of the specification. In contrast, Long like FR5265178A, has the circular section rods arranged transversely to each other. Figs. 6 and 7 of Long and depict arrays of tubes that are perpendicular to each other. That is, there is a one dimensional array of tubes 30 which are separated by another one dimensional array of tubes 29 that run perpendicular to the first array of tubes 30. The same arrangement is shown in Fig. 1 of FR5265178A.

To ignore these factors requires the examiner to ignore the content of the cited documents and engage in impermissible hindsight reasoning.

The inventor has however shown that both a transverse array and non-circular rods are in fact inferior in practice, if not in theory. Neither permits the easy and swift cleaning of the device that is, in use, essential. A flame arrestor on, for example, the exhaust pipe of a fork truck must be cleaned within hours, which means that known systems must be removed from the vehicle for cleaning. The invention allows the vehicle to be used continuously for an entire shift before renewal is required.

There is no suggestion in the art that to contradict the teaching of FR526178A and Long and go against the skilled person's understanding can in fact yield these advantages. Accordingly, claim 1 is in fact not obvious in view of FR526178A and Long. Since claims 2-14 and 16-18 depend from claim 1, claims 2-14 and 16-18 incorporate each and every element of claim 1. Thus claims 2-14 and 16-18 are also not obvious view of FR526178A and Long. As such claim 1-14, 16-18 are in condition for allowance over FR526178A and Long. Such action is kindly requested.

Claim 3

Claim 3 depends from claim 1 and as such incorporates each and every element of claim 1. For the reasons discussed above Applicants respectfully submit that neither FR526178A nor Long teach nor suggest each and every element of claim 1. Specifically, FR526178A and Long fails to teach or suggest that a two dimensional array of adjacent circular section rods each being generally co-aligned and arranged transverse to the flow direction. Indeed, FR526178A and Long teach away from such an array as set forth in claim 1. As such, the combination of FR526178A and Long fails to teach or suggest each and every element of claim 3. The combination of FR526178A and Long with WO9205946A as set forth by the Examiner fails to cure this deficiency.

In light of the above comments, Applicants respectfully submit that each and every element of claim 3 of the present invention are not taught or suggested by FR526178A, Long or WO9205946A, and therefore claim 3 is in condition for allowance over FR526178A, Long and WO9205946A. Such action is kindly requested.

Claim 7

Claim 7 depends from claim 1 and as such incorporates each and every element of claim 1. For the reasons discussed above Applicants respectfully submit that neither FR526178A nor Long teaches nor suggests each and every element of claim 1. Specifically, FR526178A and Long fails to teach or suggest that a two dimensional array of adjacent circular section rods each being generally co-aligned and arranged transverse to the flow direction. Indeed, FR526178A and Long teach away from such an array as set forth in claim 1. As such, the combination of FR526178A and Long fails to teach or suggest each and every element of claim 7. The combination of FR526178A and Long with JP403054354A as set forth by the Examiner fails to cure this deficiency.

In light of the above comments, Applicants respectfully submit that each and every element of claim 7 of the present invention are not taught or suggested by FR526178A, Long, or JP403054354A, and therefore claim 7 is in condition for allowance over FR526178A, Long, and JP403054354A. Such action is kindly requested.

Claims 10 and 11

Claims 10 and 11 depends from claim 1 and as such incorporates each and every element of claim 1. For the reasons discussed above Applicants respectfully submit that neither FR526178A nor Long teaches nor suggests each and every element of claim 1. Specifically, FR526178A and Long fail to teach or suggest that a two dimensional array of adjacent circular section rods each being generally co-aligned and arranged transverse to the flow direction. Indeed, FR526178A and Long teach away from such an array as set forth in claim 1. As such, the combination of FR526178A and Long fails to teach or suggest each and every element of claims 10 and 11. The combination of FR526178A and Long with Ko as set forth by the Examiner fails to cure this deficiency.

In light of the above comments, Applicants respectfully submit that each and every element of claims 10 and 11 of the present invention are not taught or suggested by FR526178A, Long, or Ko, and therefore claims 10 and 11 are in condition for allowance over FR526178A, Long, and Ko. Such action is kindly requested.

Claims 12 and 13

Claims 12 and 13 depends from claim 1 and as such incorporates each and every element of claim 1. For the reasons discussed above Applicants respectfully submit that neither FR526178A nor Long teaches nor suggests each and every element of claim 1. Specifically, FR526178A and Long fails to teach or suggest that a two dimensional array of adjacent circular section rods each being generally co-aligned and arranged transverse to the flow direction. Indeed, FR526178A and Long teach away from such an array as set forth in claim 1. As such, the combination of FR526178A and Long fails to teach or suggest each and every element of claims 12 and 13. The combination of FR526178A and Long with Ko and Elliot as set forth by the Examiner fails to cure this deficiency.

In light of the above comments, Applicants respectfully submit that each and every element of claims 12 and 13 of the present invention are not taught or suggested by FR526178A, Long, Ko, or Elliot, and therefore claim 7 is in condition for allowance over FR526178A, Long, Ko, and Elliot. Such action is kindly requested.

Previous Rejections under 35 USC § 102

It is unclear whether the Examiner has maintained the rejection to Claims 1, 2, 4-6, and 14 under 35 U.S.C. under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 2,068,421 to Long et al. (Hereafter "Long"). If the rejection has been maintained, Applicants respectfully traverse the rejection in view of the following arguments.

As stated above and previously argued, Long is not directed to "a two dimensional array of adjacent circular section rods each being generally co-aligned and arranged transverse to the flow direction" as set forth in claim 1. Long clearly teaches that circular section rods are arranged transversely to each other. That is, there is a one dimensional array of tubes 30 which are separated by another one dimensional array of tubes 29 that run perpendicular to the first array of tubes 30.

Accordingly, claim 1 is not anticipated by Long. Since claims 2, 4-6 and 14 depend from claim 1, claims 2, 4-6 and 14 incorporate each and every element of claim 1. Thus claims 2-14 and 16-18 are also not anticipated by Long.

In light of the above comments, Applicants respectfully submit that each and every element of claims 1, 2, 4-6, and 14 of the present invention are not disclosed by Long and therefore claims 1, 2, 4-6, and 14 are in condition for allowance over Long. Such action is kindly requested.

Previous Rejections under 35 USC § 103

It is unclear whether the Examiner has maintained the previous rejection under 35 U.S.C. 103. The Examiner had previously rejected Claims 8, 9, and 16-18 under 35 U.S.C. 103 as being unpatentable over Long. Claim 3 was rejected under 35 U.S.C. 103(a) as being unpatentable over Long in view of WO9205946A. Claim 7 was rejected under 35 U.S.C. 103(a) as being unpatentable over Long in view of JP403054354A. Claims 10 and 11 are rejected under 35 U.S.C. 103 as be as being unpatentable over Long in view of U.S. Patent No. 5,331,943 to Ko (hereafter "Ko"). Claims 12 and 13 are rejected under 35 U.S.C. 103 as being unpatentable over Long in view of U.S. Patent No. 4,437,968 to Elliot, (hereafter "Elliot"). If the rejection has been maintained, Applicants respectfully traverse the rejection in view of the following arguments.

Claims 8, 9 and 16-18

Claims 8, 9, and 16-18 depend from claim 1 and as such incorporate each and ever element of claim 1. As discussed above Long fails to teach or suggest each and every element of claim 1. Specifically, Long fails to teach or suggest that a two dimensional array of adjacent circular section rods each being generally co-aligned and arranged transverse to the flow direction. Indeed, Long teaches away from such an array as set forth in claim 1. As such, Long fails to teach or suggest each and every element of claims 8, 9, and 16-18.

In light of the above comments, Applicants respectfully submit that each and every element of claims 8, 9, and 16-18 of the present invention are not taught or suggested by Long, and therefore claims 8, 9, and 16-18 are in condition for allowance over, Long. Such action is kindly requested.

Claim 3

Claim 3 depends from claim 1 and as such incorporates each and every element of claim 1. As discussed above, Long neither teaches nor suggests each and every element of claim 1. Specifically, Long fails to teach or suggest that a two dimensional array of adjacent circular section rods each being generally co-aligned and arranged transverse to the flow direction. Indeed, Long teaches away from such an array as set forth in claim 1. As such, Long fails to teach or suggest each and every element of claim 3. The combination of Long with WO9205946A as set forth by the Examiner fails to cure this deficiency.

In light of the above comments, Applicants respectfully submit that each and every element of claim 3 of the present invention are not taught or suggested by either Long or WO9205946A, and therefore claim 3 is in condition for allowance over Long and WO9205946A. Such action is kindly requested.

Claim 7

Claim 7 depends from claim 1 and as such incorporates each and every element of claim 1. As discussed above, Long neither teaches nor suggests each and every element of claim 1. Specifically, Long fails to teach or suggest that a two dimensional array of adjacent circular section rods each being generally co-aligned and arranged transverse to the flow direction. Indeed, Long teaches away from such an array as set forth in claim 1. As such, Long fails to teach or suggest each and every element of claim 7. The combination of Long with JP403054354A as set forth by the Examiner fails to cure this deficiency.

In light of the above comments, Applicants respectfully submit that each and every element of claim 7 of the present invention are not taught or suggested by either Long or JP403054354A, and therefore claim 7 is in condition for allowance over Long and JP403054354A. Such action is kindly requested.

Claims 10 and 11

Claims 10 and 11 depends from claim 1 and as such incorporates each and every element of claim 1. As discussed above, Long neither teaches nor suggests each and every element of

claim 1. Specifically, Long fails to teach or suggest that a two dimensional array of adjacent circular section rods each being generally co-aligned and arranged transverse to the flow direction. Indeed, Long teaches away from such an array as set forth in claim 1. As such, Long fails to teach or suggest each and every element of claims 10 and 11. The combination of Long with Ko as set forth by the Examiner fails to cure this deficiency.

In light of the above comments, Applicants respectfully submit that each and every element of claims 10 and 11 of the present invention are not taught or suggested by either Long or Ko, and therefore claims 10 and 11 are in condition for allowance over Long and Ko. Such action is kindly requested.

Claims 12 and 13

Claims 12 and 13 depends from claim 1 and as such incorporates each and every element of claim 1. As discussed above, Long neither teaches nor suggests each and every element of claim 1. Specifically, Long fails to teach or suggest that a two dimensional array of adjacent circular section rods each being generally co-aligned and arranged transverse to the flow direction. Indeed, Long teaches away from such an array as set forth in claim 1. As such, Long fails to teach or suggest each and every element of claims 12 and 13. The combination of Long with Ko and Elliot as set forth by the Examiner fails to cure this deficiency.

In light of the above comments, Applicants respectfully submit that each and every element of claims 12 and 13 of the present invention are not taught or suggested by either Long Ko, or Elliot and therefore claims 12 and 13 are in condition for allowance over Long, Ko, and Elliot. Such action is kindly requested.

CONCLUSION

In view of the remarks set forth above, Applicants contend that Claims 1-14 and 16-18 are presently pending in this application, are patentable, and in condition for allowance. If the Examiner deems there are any remaining issues, we invite the Examiner to call the undersigned at (617) 227-7400.

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Respectfully submitted,

By _____

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